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ABSTRACT

According to the American Society for Training and Development, U.S. companies spend $55-$60 billion annually for company-provided education and training. Of U.S. companies, 70%-80% offer their employees some type of formal training, and 60% offer tuition reimbursement. Even adjusting for inflation, training expenditures by U.S. companies have increased by 18% during the past 12 years. More than 46 million U.S. workers reported receiving skill improvement training from their company in 1991 (36% more than in 1983). Larger companies are 1.4 times more likely to provide training than smaller companies. Workers with more education are more likely to receive training than are workers with less education. Of employees who have received company training, 75% have been taught at least once by company personnel. Use of external training providers (equipment vendors, private consultants, industry associations, and technical/community colleges) is increasing. In a 1995 survey, fewer than 1% of employees receiving training reported no benefits from their training, and nearly 40% considered job training necessary for their future advancement. More than 80% of courses and organizations still evaluate training based on feedback from trainees. Fewer than 50% of organizations evaluate training in terms of business results. (MN)

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NATIONAL ALLIANCE OF BUSINESS

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UNDERSTANDING CHANGE IN WORK AND THE WORKPLACE

ED 411 418

COMPANY TRAINING AND EDUCATION
Who Does It, Who Gets It and Does It Pay Off?

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WORKFORCE ECONOMICS

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The National Alliance of Business is an independent, nonprofit, business-led organization committed to building partnerships to solve issues related to the quality of our nation's education system, workforce and job training programs. The Alliance directs programs, creates public awareness, shapes public policy, and builds coalitions and partnerships.

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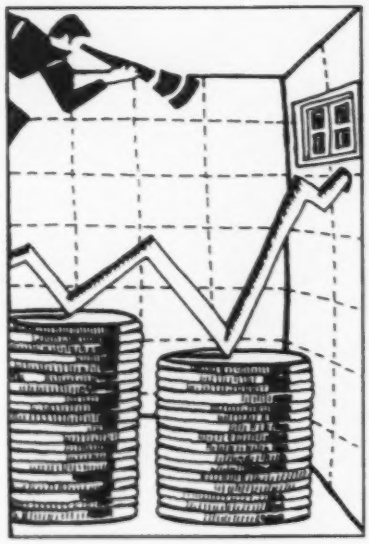
NATIONAL ALLIANCE OF BUSINESS

COMPANY TRAINING AND EDUCATION
Who does it, who gets it and does it pay off?

More and more companies understand the bottom-line importance of education and training. As firms respond to changes caused by technology, competition, workplace restructuring and shifts in the composition of the labor force, they're challenging their human resources professionals to better document the impact of workforce development efforts.

As a result, we are starting to have better data about some basic questions:

- Which industries and kinds of companies provide training?
- What kinds of employees are more likely to be trained?
- To what extent is training being delivered in new ways?
- What are some promising practices for evaluating the effectiveness of training?



Lots of Companies Are Providing Lots of Training

American companies are spending between $55 billion and $60 billion for company-provided education and training, according to estimates from Lakewood Publishers and the American Society for Training and Development (ASTD). The Saratoga Institute *(1995 Training Supplement)* estimates that an average firm spends 1.4 percent of its payroll on training and education; ASTD puts the figure at 1.8 percent. A recent survey by Arthur Andersen's Enterprise Consulting Group and National Small Business United reports that, on average, small and mid-sized companies are spending 2.7 percent of total revenue on employee training.

Between 70 percent and 80 percent of U.S. companies report that they offer their employees some kind of formal training, according to reports by the U.S. Bureau of Labor Statistics (BLS); the National Center on the Educational Quality of the Workforce (NCEQW); the National Organizations Study (NOS) conducted by researchers at the Universities of North Carolina, Minnesota, Illinois and Harvard; and *Training* magazine. "Formal training" includes classes, workshops and structured learning — all the types of training that go beyond conversing at the water cooler and looking over a colleague's shoulder.

Moreover, six of every 10 companies provide tuition reimbursement to their employees, according to the International Foundation of Employee Benefits Plans. These companies give financial assistance to their employees to take courses in various settings, including undergraduate, graduate and vocational/technical institutions.

Investments Are Increasing

As companies face more intense competition, reorganize their workplaces and upgrade technology, they are investing more in education and training. After adjusting for inflation, training expenditures have grown by 18 percent during the last 12 years, according to ASTD estimates. NCEQW found that 60 percent of the companies it surveyed are increasing training investments, while only 2 percent reported declines.

More Employees Are Receiving Training

Not coincidentally, more employees are the beneficiaries of this increase in company training and education. More than 41 percent of American workers — approximately 46 million people — reported receiving skill-improvement training from their company in 1991 (the most recent data available); that's up 36 percent since 1983. The National Household Education Surveys (NHES) for 1991 and 1995 show a similar trend — the percentage of people participating in adult education rose from 32 percent in 1991 to 40 percent in 1995.

Why Do Some Firms Invest More Than Others?

New research suggests that a company's size may not be as much of a factor in training investments as conventional wisdom suggests. Studies are finding, not surprisingly, that the market is driving the amount of training provided and received. Once other organizational factors are controlled, the impact of size on training provision disappears, according to a 1996 study, *Job Training and U.S. Organizations*, by David Knoke and Arne Kalleberg. Instead, they found that the complexity of the environment faced by an organization, the degree of market competition and the company's internal organization are the most important determinants of training.

A positive link exists between workplace practices such as total quality management, working in teams and job rotation and the amount of training provided to employees, according to a 1995 study by Paul Osterman published in *Industrial Relations*. The most recent BLS data finds a similar correlation.

Labor market conditions also seem to be an important determinant. Studies by Jonathan Veum and by Knoke and Kalleberg found that companies in tight labor markets are more likely to provide training than companies in labor markets where unemployment is high.

Larger Companies Are More Likely to Provide Training

According to a BLS survey, larger establishments (those with 250 or more employees) are 1.4 times more likely to provide formal training than smaller firms.

At the University of Kentucky, researchers working for the U.S. Small Business Administration found a similar relationship. A recent BLS survey confirms these results; in establishments with 50 to 99 employees, eight out of 10 employees report receiving formal company training, compared to nearly nine out of 10 employees in establishments with more than 500 employees.

Larger firms are two times more likely than small firms to provide job-skills training, 2.7 times more likely to provide workplace-related training and 11 times more likely to offer basic-skills training.

The types of formal training offered also differ by industry category. Basic-skills training is more likely to occur in manufacturing industries, but job-skills training and workplace-related skills training are more likely to occur in nonmanufacturing industries.

However, BLS data also show that employees in manufacturing establishments are more likely to report receiving formal company training than employees in nonmanufacturing establishments.

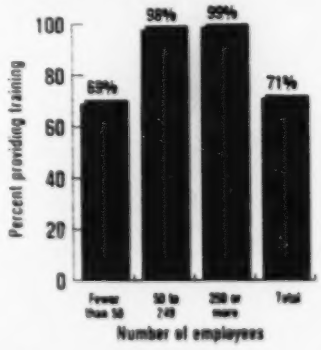
[Editor's Note: Why are there discrepancies between the kinds of training available in various industry sectors and the kinds of training employees report actually receiving? One explanation is the data were collected with two different surveys and different sampling groups — one of employers, one of employees. For instance, the BLS establishment survey interviewed firms of all sizes while the BLS employee survey only focused on firms with more than 50 employees. The discrepancies could also simply result from different people interpreting the questions in different ways. The numbers, however, raise an interesting question about whether employees in some industries are more likely or less likely to take advantage of available training.]

How Much Time Employees Spend in Training

Most surveys report simply on the incidence and not the duration of training. A 1995 BLS survey found that a larger portion of training goes to workers in higher-end occupations — confirming the conventional wis-

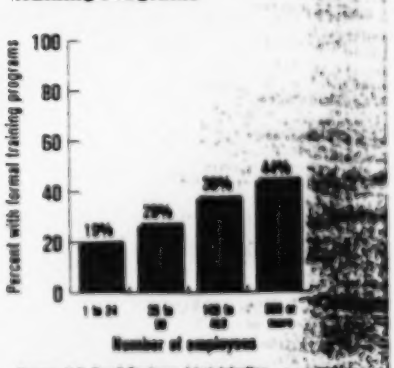
Larger Companies Are More Likely To Provide Training

Larger Companies Provide More Training ...



Source: U.S. Bureau of Labor Statistics, *1994 Establishment Survey.*

... And Have More Formal Training Programs



Source: U.S. Small Business Administration, *Job Training Approaches and Costs in Small and Large Firms, 1983.*

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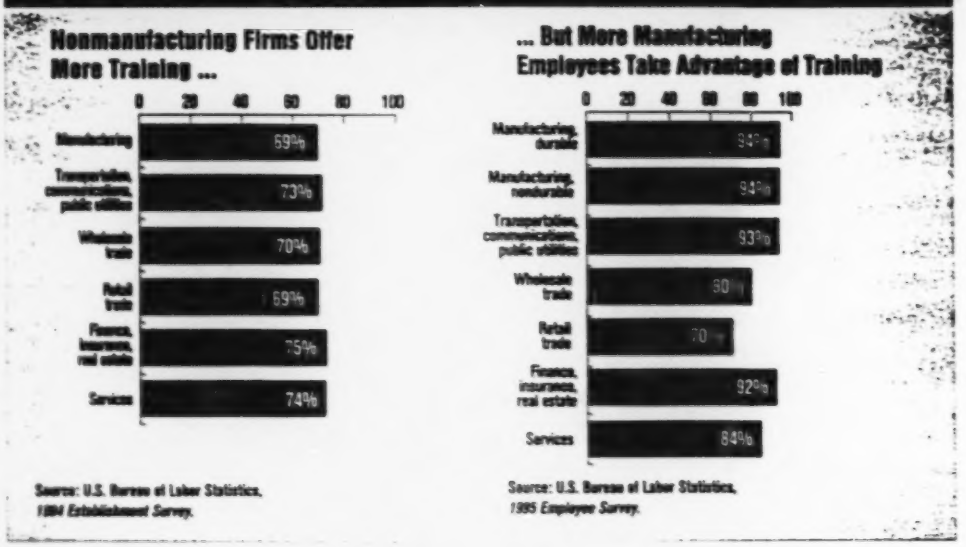
dom. But the same survey also showed that professional/technical and production, operating and maintenance jobs received the most hours of training. *Training* magazine's *1996 Industry Report* found similar results.

Surveys have also found that workers with more education are more likely to receive training than those with less education. Lisa Lynch describes this as the "virtuous circle."

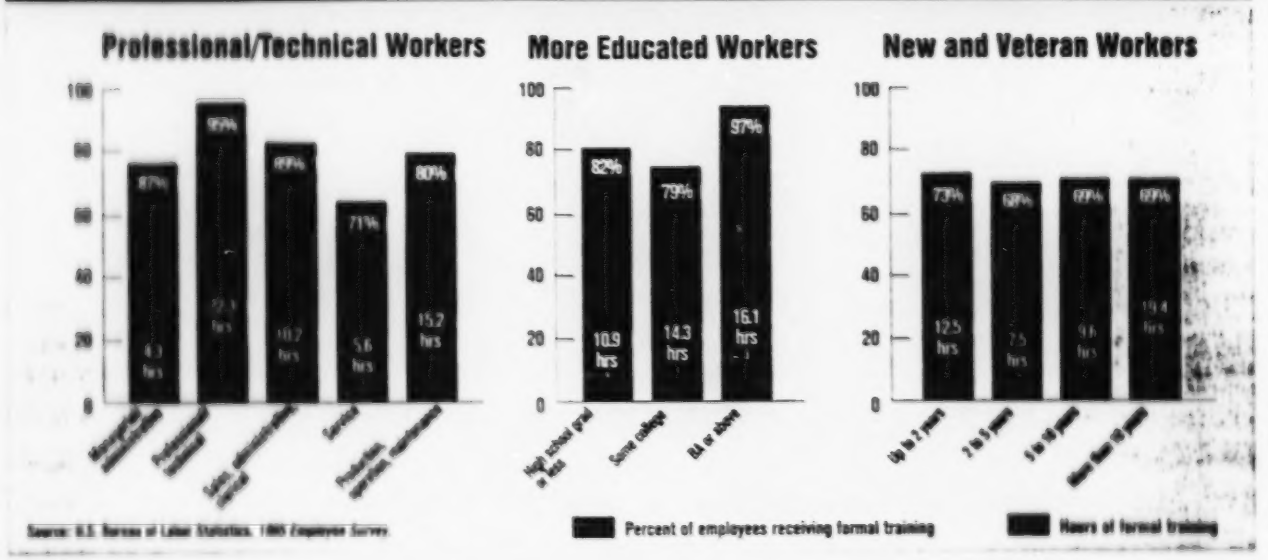
In a 1995 study published in *Industrial and Labor Relations Review*, Jonathan Veum found that the provision of training is strongly correlated with both education and aptitude as measured by Armed Forces Qualifying Test (AFQT) scores. However, a BLS study found that education and AFQT scores appear to be inversely related to the ability to perform duties adequately at the start of the job; thus, more educated workers may be employed in more complex jobs that require more training and education than lower-skill jobs filled by workers with less education and lower aptitudes. Therefore, the complexity of the job — not the employee's education level — may be more important in deciding who receives training.

The role of education levels may be overstated. Osterman found that companies whose employees tend to have firm-specific skills, rather than general skills that could be applied

Manufacturing Employees Use Training Opportunities More Often



Who Spends More Time in Training?



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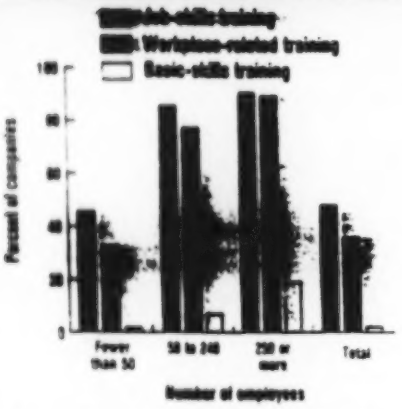
Larger Companies Provide More Job-Skills Training



Source: U.S. Bureau of Labor Statistics, 1994 Establishment Survey.

in different jobs in different companies, provide more training. So do companies that view the human resources department as a strategic partner. Within these organizations, the skill level of jobs is more important than the educational levels of the employees in determining whether training is provided.

Moreover, new workers and veteran workers appear to get more training than those in the middle. This finding refutes the assumption that training relates directly to job tenure. The BLS survey suggests that the amount of training received is high when an employee enters an occupation and again later as skills depreciate, work changes and companies reorganize work practices and processes.

Who Provides Training?

A wide range of organizations and institutions provide employee training. Of the employees who receive company training, 75 percent have been taught at least once by company personnel, according to BLS. Nearly 50 percent have received training from outside providers; 36 percent have received training through lectures, conferences and seminars during work hours; and only 17 percent have received employer-paid training from educational institutions.

More companies are turning to alternative delivery methods for training, so the use of external training providers is increasing. According to the NCEQW survey, equipment vendors are the most common external training provider, followed by private consultants. The technical training system — industry associations, technical colleges and community colleges — also appears to be an important source of training for many companies. Interestingly, four-year colleges and government-funded training are among the least-used providers.

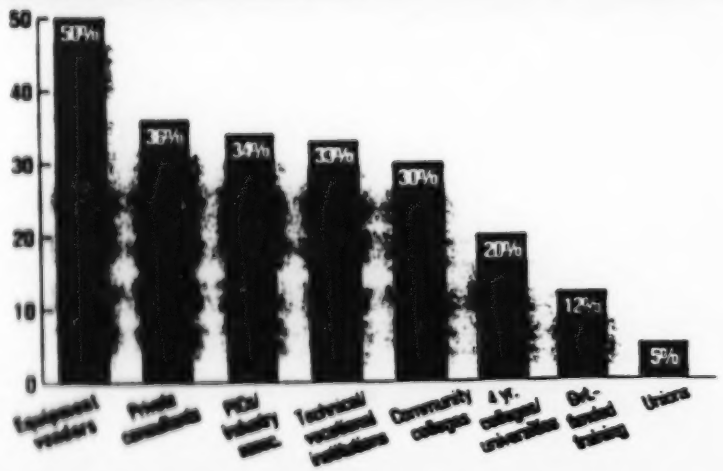
No study has systematically looked at how training providers are selected, but the evidence suggests that the process is ad hoc at best. And given the wide variety of potential training providers, it is not clear how companies can effectively and efficiently sort through this maze.

Training Technology Is Emerging Slowly

Although technology is rapidly changing work, the impact of technology on training is emerging more slowly. For instance, data from *Training* magazine's annual industry report and ASTD's Benchmarking Forum show that most training is still delivered via the traditional classroom model. According to *Training*'s 1996 report, 83 percent of training is delivered in instructor-led courses, compared to only 17 percent delivered through technology.

However, the use of training technology is beginning to increase (see the December 1996 issue of *WorkAmerica*). For instance, from 1994 to 1995, the number of companies using interactive/multimedia computer-based training increased by 25 percent, and the number of companies using the Internet or network-based distance learning increased by 300 percent. In 1996, nearly 40 percent of companies were using electronic performance support systems, according to ASTD's Benchmarking Forum.

More Companies Are Using Outside Training Providers



Source: National Center on the Educational Quality of the Workforce survey.

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Evaluating the Payoff

Employees clearly understand the benefits — less than 1 percent of employees receiving training reported no benefits from the training, according to the 1995 BLS survey. Most importantly, nearly 80 percent of employees said they learned a new skill that improved their job performance. Nearly 40 percent reported that job training was necessary for their future advancement. And almost 19 percent received higher pay or a bonus for completing their training.

As we pointed out in the April 1997 issue of *Workforce Economics*, companies are challenging their training departments to more accurately measure the value-added of training. Using Kirkpatrick's four levels of training evaluation (see below), more than 80 percent of courses and organizations still evaluate training based on feedback from the trainees — "the smile test." In contrast, just under 50 percent of the organizations and only 44 percent of the courses evaluate training in terms of business results (Kirkpatrick's level 4).

Data from ASTD's Benchmarking Forum found even smaller percentages of courses are being evaluated in terms of changes in trainee behavior or business results.

There are some important exceptions to this rule, however. For instance, Intel has eliminated more than 5 percent of its training programs and substantially revised another 20 percent based on evaluations of how well the training improved or changed job performance and affected business results (such as higher productivity, profits and quality).

Implications

This brief survey raises a number of questions and suggests areas for further research. For instance:

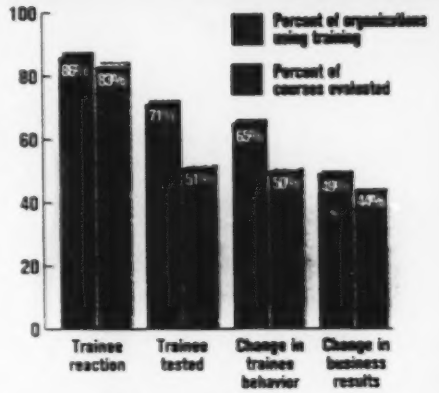
- Are employees in some industries less likely to take advantage of training opportunities as the data on page 5 suggests? Or is this simply a case of different people answering different questionnaires in different ways?
- Why do managerial/administrative employees receive so little training — an average of about four hours compared to 22 hours for professional/technical employees? Given the complexity of today's management challenge, isn't the equivalent of one afternoon a year insufficient?

Because of the cost constraints facing small and medium-sized companies that want to offer more training, these firms would benefit from joint training. A recent publication from the Alliance's National Workforce Assistance Collaborative, *Approaches to Forming a Learning Consortium*, points to a number of promising practices and resources for additional information.

Companies also need help sorting through the complex maze of potential training providers. In northeast Ohio, for example, the Greater Cleveland Growth Association, the Akron Regional Development Board and Lorain County's Workforce Institute now inventory the range of training providers and make the information available to the business community. Southeastern Pennsylvania Industrial Resource Center in Pittsburgh does the same.

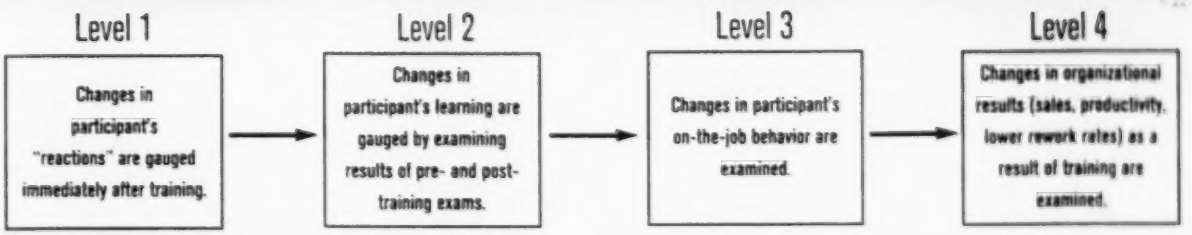
But most importantly, companies need to follow the lead of firms such as Intel and begin rigorously assessing the benefits of training — and using the data to revamp programs and reallocate resources.

Training Evaluated by 'Smile Test'



Source: *Training* magazine, *1996 Industry Report*.

Kirkpatrick's Four Levels of Training Evaluation


Level 1
Changes in participant's "reactions" are gauged immediately after training.
Level 2
Changes in participant's learning are gauged by examining results of pre- and post-training exams.
Level 3
Changes in participant's on-the-job behavior are examined.
Level 4
Changes in organizational results (sales, productivity, lower rework rates) as a result of training are examined.

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